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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,463	01/23/2001	James Logothetis	10722-253	2767

7590 02/05/2003

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EXAMINER

BALDWIN, TAMRA D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 02/05/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,463

Applicant(s)

LOGOTHETIS, JAMES *CH*

Examiner

Tamra Alexander

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Method of Manufacturing Multilayer Microwave Couplers Using Vertically-Connected Transmission Line Structures. ok

2. Preliminary Amendment page 1, In the Specification, line 3 "filed June 11, 1999, currently pending" should be changed to: -- filed June 11, 1999, now US Patent 6,208,220 --. ok

This amendment, currently preceding the title of the invention, should be moved so that it follows the title of the invention.

3. Preliminary Amendment page 2, Introduction, lines 8-9 and again on line 12, "U.S. Patent No. 6,099,977" should be changed to: -- U.S. Patent No. 6,099,677 --. ok

Claim Objections

4. Claims 9-16 are objected to because of the following informalities:

- a. "a segment of a coupler" should be amended to: -- a segment of said coupler -- page 45, line 21.
 - b. "another segment of a coupler" should be amended to: -- another segment of said coupler -- on page 45 line 24 - page 46 line 1.
 - c. "to form a coupler" should be amended to: -- to form said coupler -- on page 46 line 7.
- ok

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 9-11, and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 5,929,729, Swarup.

Swarup teaches, according to Figure 6B, manufacturing a coupler comprising the steps of:

- Manufacturing a plurality of substrate layers *Fig 6B, 204, 208, 212, ...*
- Etching at least five metal layers disposed on a subset of the substrate layers
- Connecting the second metal layer (198) with the fourth metal layer (190) to form a coupler
- Connecting the first metal layer (202) with the third metal layer (194) and the fifth metal layer (206) to form groundplanes
- Connecting at least two of at least five metal layers with via holes (Fig 6B)

Swarup also teaches:

- A plurality of substrate layers comprising a polytetrafluoroethylene composite (column 9 lines 47-51)
- A coupler that has a frequency of operation between approximately .5 GHz and approximately 6.0 GHz (column 1 lines 10-13, and column 4 lines 65-67).
- A wideband coupler that is a non-uniform coupled structure (Fig 6A and column 4 lines 65-67)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swarup in view of US Patent 3,761,843 Cappucci.

Swarup teaches the invention as described with respect to claim 9 above.

Swarup fails to disclose a Cappucci coupler using slabline transmission lines.

Cappucci discloses a Cappucci coupler using slabline transmission lines for reducing the size of couplers (Abstract lines 9-10, column 11 lines 47-49)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Swarup and Cappucci in order to produce a high frequency, wide bandwidth coupler while keeping the size of the coupler to a minimum.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra Alexander whose telephone number is 703.305.0831. The examiner can normally be reached on Monday through Friday, 7:30am - 4:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703.308.1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9302 for regular communications and 703.872.9303 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1148.

TA
February 3, 2003

A handwritten signature in black ink, appearing to read 'Peter Vo', with a long horizontal line extending from the end of the signature.

PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700